

Highlevel Bridge Waterfall

Recommendation:

That the March 7, 2012, Office of the City Manager report 2012CMC003 be received for information.

Report Summary

This report responds to a Council motion made during the most recent budget discussion.

Previous Council/Committee Action

At the November/December 2011, City Council Budget meeting, the following motion was passed:

That Administration provide a report to the March 7, 2012, Executive Committee meeting, outlining options for reinstating the Highlevel Bridge waterfall and include any limitations or concerns with doing so.

Report

Background

The Great Divide Waterfall was built in 1980 as an addition to Edmonton's High Level Bridge. The waterfall cost \$425,000 to build, with \$100,000 from the City of Edmonton and the rest from donations.

Designed by then-Edmonton artist Peter Lewis, the waterfall was constructed to mark the occasion of Alberta's 75th Anniversary. The Great Divide Waterfall operated on five long weekends in the summer at a rough operating cost of \$2,000/hour (at \$30,000/year). The operating budget is with the City of Edmonton, with EPCOR responsible for operations.

The waterfall is considered part of the City's Public Art collection, which is administered by the Edmonton Arts Council. Its installation predates the funding and policy now in place for public art conservation.

The Great Divide Waterfall was shut down in consultation with Environment Canada in 2009, as a precautionary measure until ways could be determined to dechlorinate the water outflow in order to mitigate potential impacts on aquatic habitats.

Note: Filtering and pumping untreated river water over the bridge is not considered acceptable under public health standards.

AECOM Report Options

In 2009, the City commissioned AECOM Engineering to report on options for restarting the waterfall. AECOM estimated that the water flow has likely decreased by 7% since the original installation due to modifications made to the supply piping during bridge sidewalk widening and natural adding of the piping. Water flow (quantity) and nozzle head design are the two most significant factors in the appearance of the waterfall as a "falls" rather than a trickle.

AECOM found that only the most expensive option to dechlorinate the water and upgrade the system will be able to restore the original flow performance and appearance.

The AECOM report also indicates that the cost of waterfall operations would increase to \$40,000/year because of the need for an additional crew to operate and monitor the dechlorination equipment.

The AECOM report outlines the following options for restarting the

Highlevel Bridge Waterfall

waterfall (numbered in the following way):

Option 3

Install dechlorination equipment and repair piping equals \$175,000. This option will result in a 15% decrease in water flow. The change in appearance of the waterfall is expected to be significant, but cannot be known with certainty. Any option that affects the appearance of the artwork will require the original artist to be involved to determine when the appearance is sufficiently restored. The original artist has the right to be involved with any adjustment to the artwork, or to require that it not be operated or presented should it not meet his requirements. The artist's possible fees are not factored into any of the costs in this report.

Option 2

Install dechlorination equipment, repair piping, and replace the nozzles and small lateral feeder pipes for the nozzles equals \$325,000. Replacing the nozzles and lateral feeders may compensate for the lower flow, and restore the waterfall's appearance. However, there is no guarantee that the appearance can be restored through this solution. Option 3 and Option 2 can be staged. Should Option 3 not produce the desired result, Option 2 could then be tried.

Option 1

Install dechlorination equipment and replace upstream piping equals \$700,000 (inclusive of Options 2 and 3). This option would theoretically restore the water flow to the original state and appearance; however there are no records from the original installation to confirm this theory. Discussions with the

original artist indicate he may still have concerns about the appearance.

Implications

The changes suggested in the AECOM engineering report would need to be vetted by Alberta Environment before operating the waterfall to obtain their approval of the operating procedures used to ensure dechlorinated water does not enter the drinking water system. Environment Canada approvals will also be required to confirm that the new operating procedures meet the requirements of the *Fisheries Act*. If prior approval cannot be obtained, legal advice on the possible risk of fines to the City and EPCOR would need to be obtained.

The estimated timeline to restore the waterfall would be up to one year, due to engineering, materials purchasing and procurement and installation timelines.

EPCOR has advised that the waterfall uses 5 million litres every two hours of operation (equivalent to the daily use of a town of 5,000 people). This is contrary to current water conservation plans and messaging, including *The Way We Green*.

EPCOR also advises that renewed operation will require shutting down one lane of the High Level Bridge, and may require total bridge closure while operating dechlorination equipment in order to ensure employee safety.

Although the waterfall is likely remembered fondly by Edmontonians, there has been no public concern expressed since it has been shut down.

The Edmonton Arts Council could contribute \$50,000 to the cost of restoring waterfall operations. Should

Highlevel Bridge Waterfall

operations be discontinued, the Edmonton Arts Council recommends leaving the artwork infrastructure on the bridge as part of the de-accession of the art.

Should Council accept this report for information, the City will proceed to decommission and de-access the waterfall under the Edmonton Arts Council's guidelines. EPCOR will decommission the valve at the bottom of the bridge to prevent unauthorized operation of the waterfall and remove the risk of valve failure due to lack of inspection and operation. Repairs or removal of the vertical riser on the north side of the High Level Bridge, used to supply water to the waterfall, may also be required. EPCOR would work with the City's Parks Branch to determine the extent of the removal required.

Policy

The Way We Green, Objective 4.6, states: Water resources are conserved and used efficiently by the public, industry, and the City of Edmonton (*The Way We Grow, Objective 7.5.3*).

The Edmonton Arts Council policy on Public Art Conservation, De-accession and Re-site states:

- 2.2. De-accession and Re-siting
 - 2.2.1. A De-accession or Re-site of a Public Artwork owned by the City will occur when any one of the following situations occurs:
 - 2.2.1.4. The cost of maintaining or restoring the Artwork is prohibitive.
 - 2.2.1.6. The Artwork is deemed by the EAC and the City to no longer be suitable for the purposes of the Civic Art Collection.

Budget/Financial Implications

There is no approved capital or operating budget for the three options outlined in this report.

Background Information Available on Request from the Department

1. AECOM report prepared for the City of Edmonton Transportation Department: Hydraulic Capacity and Condition Assessment of the Great Divide Waterfall Report
2. Edmonton Arts Council Policy on Public Art Conservation, De-accession and Re-site
3. The Way We Green